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Case Report

Pacinian neurofibroma of index finger in young adult: a rare case report

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ABSTRACT

Pacinian neurofibroma (PN) of index finger (hand) is a rare entity with only few cases reported till now. Although it's a neurofibroma but the association between PN and neurofibromatosis has not been established. We present a rare case of young adult coming with painful swelling on palmer aspect of base of index finger. Patient didn't respond to the conservative line of management so on excision biopsy it revealed out to be PN.

Keywords: Pacinian neurofibroma, Index finger, Neurofibroma

INTRODUCTION

Vater-Pacinian corpuscles, oval shaped mechanoreceptor is pressure sensitive which is at the end of sensory nerve fibers located mainly in the palmer and planter aspect of hands and foot respectively. Other sites are conjunctiva, urethra, vulva, clitoris and loose connective tissue, buttocks.[2] Physiologically it detects pressure and vibrations. PN is a rare entity of pacinian corpuscles. Rarely cause pressure symptoms depending on size and structure it compresses. We present a rare case of PN in a 21 year old male presented to us with a swelling over left hand index finger since 3 months which was diagnosed to have a rare entity of PN

CASE REPORT

A 21 year old male presented to the outpatient with complaints of pain and palpable swelling over left hand index finger base since 3 months. Pain was gradual in onset, progressive, continuous dull aching, non-radiating and non-referring, not associated with tingling or numbness distal to the finger or any other area of the hand, aggravated during gripping movements while lifting moderate to heavy weight and partially relieved by rest and medications. Swelling over the base of index finger was approximately a pea size, globular which was non pulsatile, non-adherent to the underlying tissue, not moving with the movement of the finger, and which was absent from the signs of inflammation with negative transillumination (Figure 1). This swelling is so small that clinically it is not apparent at all. He initially reported to the physician near-by where he had been advised some NSAIDs and investigated in the form of x-rays which were negative to reveal any pathology. The patient had no relief from his symptoms so he consulted our institute.

At our institute after examining him and going through his initial investigations, an additional ultrasonography was advised which showed cystic lesion measuring 2.3×2.7×2.8 mm in subcutaneous plane, just superficial to the FDS. The lesion was not moving with movement of the underlying muscle. With this information we decided to excise the lesion.

On excision the lesion was sent for histopathology examination. Grossly it was greyish mass which was uniformly globular (Figure 2). Microscopically revealed well circumscribed nodule with presence of nerve bundle and few Pacinian corpuscles like structure which were surrounded by lobules of adipose tissues with few nerve bundles in a collagenous stroma suggestive of PN (Figure

4). Sutures were removed 2 weeks later index surgery and patient is on regular follow up in OPD till now with no complaints or recurrence of tumour.

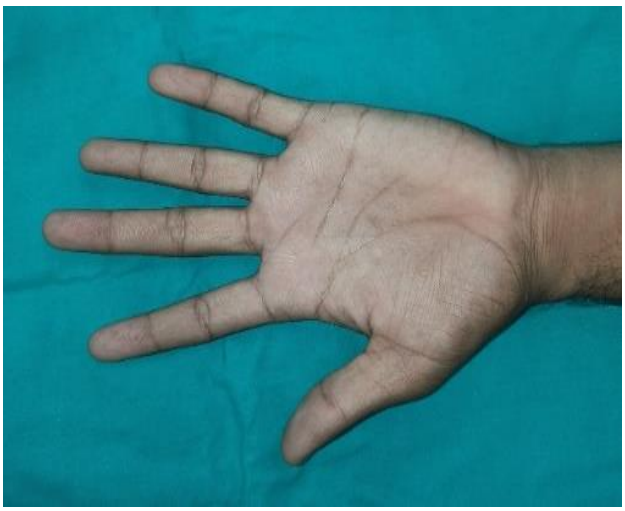

Figure 1: Pre op.

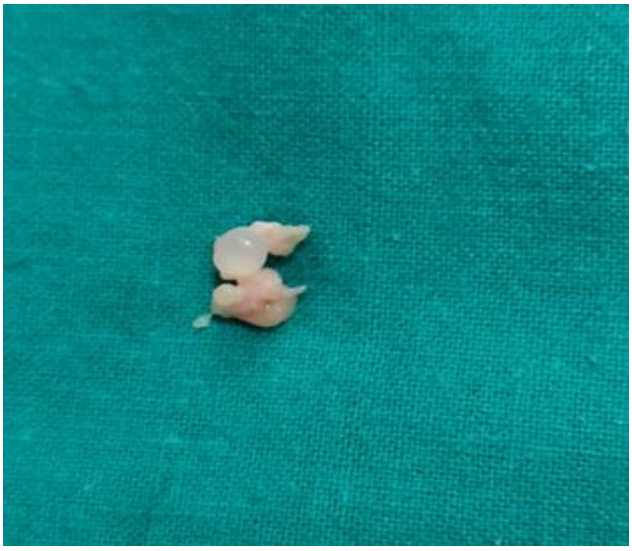

Figure 2: Gross specimen.

Figure 3: Post op.

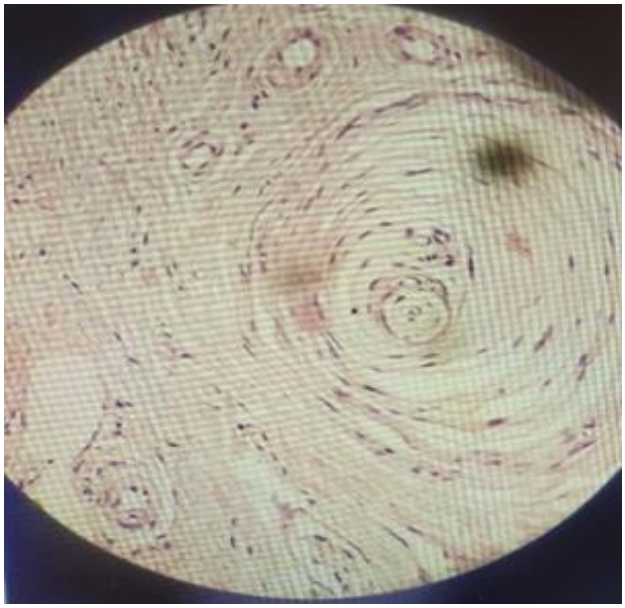

Figure 4: Microscopic view.

DISCUSSION

History dates back 1894 where PN was first introduced to the medical fraternity by Thomas and then by Prichard and Custer in 1952.[5] It usually presents as a solitary nodule but may vary depending on the involvement of the tissue. PN is a rare lesion with a limited number of cases reported.[6-11] Histopathologically characterized by the formation of components resembling Pacinian corpuscles within the lobules of the tumor. The tumour embeds Pacinian corpuscles within its matrix and hence the name. In well differentiated cases it more homogenous with spindle shaped nuclei and other cellular elements in immature stages. Mostly the location is deep layers of skin of hand and foot. Cornea, conjunctiva mesentery are some of the other locations.[3]

Solitary tumors of peripheral nerve are relatively uncommon in the hand, representing fewer than 5% of all hand tumors. Pressure on the nerve could be the main reason for the pain. As described earlier that Pacinian corpuscles are mainly related to pressure and vibration, excess compression or involvement of these neurological component causes symptoms. Around 300 Pacinian corpuscles are present in the hand with fingers (60%), near the MCP joints (30%) and in the thenar and hypothenar regions (10%).[1] As the tumour matures this uncommon varient (PN) is composed of clusters which appears to be Pacinian corpuscles. PN is not associated with von Recklinghausen's disease.[3] This is the reason that not much preoperative preparation or workup is required to offer the definitive management in these cases. The only definitive management is surgical excision of the lesion. This is a very rare tumour and not much literature or evidence is available on internet. Clinical diagnosis of these cases is very rare suspicion. After histopathology report only the definitive diagnosis can be made. Also, not

much comments are available about recurrence or tumour/ transformation in to malignant condition or calcification. Hence the histopathology plays a pivotal role here.

CONCLUSION

PN is a very rare tumour of the hand and feet. Clinically the cases of PN are very difficult to diagnose due to less number of cases, or uncommon presentation. Definitive treatment is surgical excision and definitive diagnosis can only be made on histopathological studies. These cases are not associated with neurofibromatosis type 1. No data is available related to its recurrence of lesion/ aggressiveness about the tumour turning into malignant lesion.

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